- Singh M, O'Hagan DT. Recent advances in veterinary vaccine adjuvants. Int J Parasitol 2003;33:469–478.
- 38. HogenEsch H. Mechanisms of stimulation of the immune response by aluminum adjuvants. Vaccine 2002;20 Suppl 3:34–39.
- Messier S, Ross RF. Interactions of Mycoplasma hyopneumoniae membranes with porcine lymphocytes. Am J Vet Res 1991;52:1497–1502.
- Romero-Rojas A, Reyes-Esparza J, Estrada-Parra S, Hadden JW. Immunomodulatory properties of *Mycoplasma pulmonis*. III. Lymphocyte stimulation and cytokine production by *Mycoplasma pulmonis* products. Int Immunopharmcol 2001;9–10:1699–1707.
- 41. Knudsen NS. PMWS update: Veterinary researchers continue to hunt for PMWS answers. Swine Pract 2005:4–7.
- 42. Sessing EHAL, van Lith P, de Snoeck, SRG, de Vries ARL. Postweaning multisystemic wasting syndrome (PMWS) and Mycoplasma, an alternative approach with Hyoresp<sup>R</sup> (abstract). Proc 2nd Asian Pig Vet Soc Cong, 2005:226–227.
- 43. Alexopoulos C, Kritas SK, Papatsas I, Papatsiros VG, Tassis PD, Kyriakis SC. Efficacy of one and two shot vaccines for the control of enzootic pneumonia (EP) in a pig unit suffering from respiratory syndrome due to EP, PRRS and PMWS (Abstract) Proc 18th Vet Pig Soc, 2004:1:449.

## Book Review Compte rendu de livre

## Pathologic Basis of Veterinary Disease, 4th ed.

McGavin MD, Zachary JF. Mosby-Elsevier, St. Louis, Missouri, 2007. 1476 pp. ISBN 0-3230-2870-5. US\$125.00.

The 4th edition of this text differs substantially from previous versions, most notably in added coverage of principles of general pathology in addition to the specific pathology of organ systems, and extensive use of color photographs and schematic illustrations of disease mechanisms. This expanded edition is modeled on the human medical text, Robbins and Cotran Pathologic Basis of Disease<sup>1</sup>; both are designed primarily as medical student texts but include sufficient depth of coverage to be useful for pathology residents and graduate students, as well as practitioners with an interest in pathology.

The first 6 chapters are entirely new, covering cellular and tissue responses to injury, vascular disorders and thrombosis, acute inflammation, chronic inflammation and wound healing, diseases of immunity and neoplasia and tumor biology, providing a mechanistic background for understanding pathologic processes detailed in the following 14 organ systems-based chapters. Many of the illustrations used are reproduced directly from the 7th edition of Robbins and Cotran, supported by color photographs of disease processes in animal species. Each of the systems pathology chapters begins with a review of basic organ anatomy and physiology, portals of entry, defense mechanisms and organ-specific pathophysiology and responses to injury, followed by discussion of the pathology of selected diseases. The breadth and depth of coverage is not intended to be encyclopedic, but rather to illustrate important diseases in various domestic species. The concepts and processes in these sections are reinforced by numerous color schematic diagrams and fullcolor images. The systems-based chapters also often include a section on organ-specific methods of necropsy examination

and tissue sampling, including in some, a basic introduction to microscopic examination and ancillary testing including immunohistochemistry and special stains.

One of the strengths of this edition is the high quality color images used throughout. Pathology is an intensely visual field, and the extensive use (typically 2–3 per page) of full-color gross photographs supported by selected histologic images provides excellent visual reinforcement of text concepts.

This edition also includes access to Elsevier's online Evolve Learning System, a Web-based course management site. Registration as an instructor (subject to institutional verification, which takes a few days) allows access to an image collection of most of the book's illustrations which can be downloaded for use in lectures and presentations. Registering as a student provides access to the book's learning resource site with links to other sites providing supplementary resources. At the time of review, these included a rather mixed collection of links to general online resources, journal homepages, related association homepages, online case studies and learning modules from various Veterinary Colleges and University sites, much of which might be questionably useful, as well as suggestions on how to search the subject area in Medline using MeSH terms.

Finally, while the expanded format of this text has resulted in a doubling of the physical size of the volume, the purchase price has remained essentially the same, keeping it well within the budget of its target users.

Kumar V, Abbas AK, Fausto N. Robbins and Cotran Pathologic Basis of Disease, 7th ed. Elsevier Saunders, Philadelphia, Pennsylvania, 2005.

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